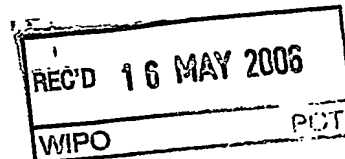


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference PCT/RU 2003/000553	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No.	International filing date (<i>day/month/year</i>) 17 December 2003 (17.12.2003)	Priority date (<i>day/month/year</i>)
International Patent Classification (IPC) or national classification and IPC 7 B32B 3/28, 3/24		
Applicant OTKRYTOE AKTSIONERNOE OBSHESTVO "KAZANSKY NAUCHNO-ISSLEDOVATELSKY INSTITUT AVIATSIONNOI TEKHNologii" et al.		

1. This report is the international preliminary examination report, established by the International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (*sent to the applicant and to the International Bureau*) a total of 1 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of the report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ Sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the opinion

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 18 October 2005 (18.10.2005)	Date of completion of this report 14 March 2006 (14.03.2006)
Name and mailing address of the IPEA/RU FIPS Russia, 123995, Moscow, G-59, GSP-5, Berezhkovskaya nab., 30-1 Facsimile No.	Authorized officer A. Boryakina Telephone No. 240-25-91

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/RU 2003/000553

Box No. I Basis of the opinion

1. With regard to the language, this report is based on:

- ☐ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."*):

3. ☒ the international application as originally filed/furnished

☒ the description:

pages _____ 1-4 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* _____ 5 received by this Authority on 25 January 2006 (25.01.2006)

pages* _____ received by this Authority on _____

☒ the drawings:

pages _____ 1/2-2/2 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims. Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims. Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded".

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/RU 2003/000553**Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1	YES
	Claims		NO
Inventive Step (IS)	Claims	1	YES
	Claims		NO
Industrial Applicability (IA)	Claims	1	YES
	Claims		NO

2. Citations and explanations (Rule 70.7):

The Examination Report has been prepared on the base of the Search Report, comprising the following documents:

D1 – JP 10305497 A, 17.11.1998;

D2 – US 4227356 A, 14.10.1980;

D3 – DE 2709025 A, 07.09.1978.

There is declared a sandwich panel.

The sandwich panel, which is known from D1 (see Abstract and Figure 6), is the closest analogue with respect to the invention, which is declared in accordance with the independent claim of the invention. The known panel includes:

- the skins, which are connected with placed between said skins zigzag corrugated aggregate, having the alternating protrusions and recesses with the use of adhesive composite material ;

- a corrugated layer, which has perforation holes, that are intended for the adhesive material penetration into the holes.

The declared invention differs from the invention, which is known from D1, in that:

- slanting ridges of the corrugated aggregate are connected between one another along the protrusions and recesses zigzag lines by means of curvilinear parts, whose radius is less than the core material thickness;

- the line perforation is made in such a manner, that it provides with the penetration of the adhesive material into holes of the perforation in the course of core–skins assembling.

Therefore, Claims meet the criterion of novelty.

The features: “the line perforation is made in such a manner, that it provides with the penetration of the adhesive material into holes of the perforation in the course of core–skins assembling” are known from D2 (see lines 1 to 14 of column 4 and Figures 3 and 4) and from D3 (see paragraph 4 in page 8 and drawing) and they provide a glueing of the layers in the course of assembling. However, the features: “slanting ridges of the corrugated aggregate are connected between one another along the protrusions and recesses zigzag lines by means of curvilinear parts, whose radius is less than the core material thickness” are not known from D2 and D3, and these features are not obvious ones in order to obtain the technical result, consisting in an “improvement the specific weight efficiency of the panel by means of the core material and adhesive material weight reduction”, therefore, the declared invention meets the criterion of inventive step.

The declared invention meets the criterion of industrial applicability.

Amended claims under Art. 34 PCT**Claims**

A sandwich panel including the skins connected with placed between said skins zigzag corrugated core having the alternating protrusions and recesses with the use of adhesive composite material is characterized by that the plane slanting ridges are connected in-between along the protrusions and recesses zigzag lines by means of curvilinear parts whose radius is not less than the core material thickness and a line perforation is made along said parts so that to provide the adhesive material penetration into the holes of the perforation in the course of core-skins assembling.

IPEA/RU

ИЗМЕНЕННЫЙ ЛИСТ